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BAKER & MCKENZIE  
PATENT DEPARTMENT  
2001 ROSS AVENUE  
SUITE 2300  
DALLAS, TX 75201

EXAMINER

AMSBURY, WAYNE P

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/731,773

**Applicant(s)**

SHAH ET AL.

**Examiner**

Wayne Amsbury

**Art Unit**

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 24-56 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) 34-49 is/are allowed.  
6) ☒ Claim(s) 24-33 and 50-56 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/11/05, 12/8/05.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

CLAIMS 24-56 ARE PENDING

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. The terminal disclaimer submitted 8/10/05 has been deemed proper and has been recorded.

**3. Claims 34-49 are allowed.**

**Claims 34-39** include: *a designation specifying by dimension which measures are additive and which measures are non-additive*. This is interpreted in light of the Specification [‘174 COL 4 lines 53-64] to be a flag included in the measure indicator. This feature, in combination with the other elements of the claims, is neither anticipated nor suggested by the prior art of record.

**Claims 40-49** include a test and resulting action that deals with a measure that is insufficiently fine in order to respond to a metric query. This feature, in combination with the other elements of the claims, is neither anticipated nor suggested by the prior art of record.

4. Applicant's arguments with respect to claims 24-33 and 50-56 have been considered but are moot in view of the new ground(s) of rejection.

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 24-33 and 50-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissman et al (Weissman), US 6,212,524, 3 April 2001.**

Weissman is directed to creating and populating a datamart.

**As to claim 24:**

*A method of operating an analytical server which is positioned between a client and a Relational Database Management System (RDBMS), the method operable to provide an interface between the client and a relational database located on the RDBMS, the relational database having fact tables, dimension tables, and metadata describing the relationships between the fact and dimension tables*

System **100** of FIG 1 is an analytical server positioned between a client and a RDBMS. A datamart comprises fact, aggregate, and dimension tables [COL 17 line 62 to Col 18 line 2]. The central theme of the datamart system of Weissman is the use of metadata, as provided by the overview [COL 7 line 23 and after]. In particular note the definition of a constellation [COL 6 lines 12-16].

*receiving in the analytical server, from the RDBMS, at least a portion of the metadata information regarding the relational database and its organization, including information about a logical hierarchy of the fact and dimension tables.*

This information, as shown in FIG 5, is received and processed [COL 28 lines 22-53], and includes dimension role names, aggregate groups and the like.

*receiving in the analytical server, from the client, a metric query*

It is the nature of a datamart to support queries at a higher level (meaning aggregates and summaries) than does a simple RDB [COL 1 lines 61-64]. Weissman is specific about the receipt of such queries as in FIG 1 **104** and the corresponding discussion [Col 8 lines 8-19 and elsewhere].

*determining, based on the received information regarding the logical hierarchy of the fact and dimension tables and based on the metric query received from the client, which hierarchical levels of the fact and dimension tables are available in the relational database for responding to the metric query.*

This determination is made at runtime in navigation of the system that determines which aggregates to use in response to a query [COL 27 lines 23-48].

*determining at least one database query according to the available hierarchical levels of the fact and dimension tables*

This occurs when a view is generated in response to a query [COL 27 lines 42-48].

*sending the determined at least one database query to the RDBMS ... whereby the metric query can be responded to by the analytical server based on responses of the RDBMS to the determined at least one database query.*

This is the point of the system, of course, and most simply is depicted in FIG 1, where the extraction program 120 communicates with the database source 110.

*wherein the at least one database query comprises multiple fact table queries, the multiple fact table queries each yielding results;*

*calculating metric values by assessing which hierarchical levels are available in the results, lining up the results along the available hierarchical levels and performing an outer join*

Weissman does not explicitly state the details of data retrieval as claimed, but queries in general involve sub-queries that address a plurality of fact tables, and assessing which hierarchical levels are available and are to be lined up simply avoids comparing apples and oranges when determining which aggregate to use in response to a query [COL 27 lines 23-27]. Weissman teaches that the well-formed datamart must be designed around joins. It is understood that one of skill in the art that this is the fundamental operation of data retrieval from relational databases.

**It would have been obvious** to one of ordinary skill in the art at the time of the invention to assess the hierarchical levels in the results and line them up along those levels to perform an outer join because this would prevent incomparable and in appropriate levels of data from being improperly conjoined.

As to **claim 25**, Weissman is directed to organizing the datamart in the form of a star schema [COL 2 lines 26-38; Col 3 lines 36-40].

As to **claim 26**, an example of a table that stores the supported level for each dimension in the star schema is depicted in FIG 3. In more particular, FIG 5 shows supported levels for a date\_key (day, week, month, year). These examples correspond directly to the description of support levels in the parent ['174 COL 3 lines 32-42].

As to **claim 27**, the time dimension in Weissman is represented at least by the date special dimension [COL 14 lines 54-57], and is treated explicitly at COL 29 lines 59-65 and COL 30 line 57 and COL 31 line 14.

As to **claims 28-29**, an example of 4-level time dimension including years and months is shown in FIG 5 and the citations noted above *in re* claim 27.

As to **claim 30** Weissman teaches the use of one or more dimension tables (which include time dimensions). In the case of more than one dimension table two time dimension tables are supported.

As to **claim 31**, the metadata FIG 1 **160** includes security information [COL 8 lines 21-25] that is available for responding to a query and is otherwise accessible [COL 35 lines 37-38].

As to **claim 32**, the dimension usage within a constellation is defined within a ticksheet that defines the user interface objects [COL 31 lines 60-67; COL 32 lines 42-62 and 42-43 and 54-55 in particular]. The results are reported through a connector that determines extraction [COL 20 lines 8-14; lines 64-65]. Usage is specific for dimensions [COL 14 lines 27-29]. Output is in the form of reports [FIG 34].

As to **claim 33**, Weissman describes how predefined aggregates are used to answer different queries at COL 30 line 57 to COL 31 line 13]. It is efficient mathematical practice to apply measures that are usable in common between at least two metrics. One set of example is that of SUM, AVG, and STANDARD DEVIATION., which use common aggregates.

**It would have been obvious** to one of ordinary skill in the art at the time of the invention to line up results usable in common between at lest two metrics because this provides for efficient mathematical operations.

As to **claim 50**, it was noted in thê response that this claim corresponds to incorporating dependent claim 33 into the subject matter of claim 24. The metrics noted above are broken down into the same hierarchical level in order to incorporate a summing operation of data upon which AVG and STDEV operation.

The elements of **claims 51-56** are rejected in the analysis above and these claims are rejected on that basis.

**6. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).



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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Amsbury whose telephone number is 571-272-4015. The examiner can normally be reached on M-F 6-18:30 FIRST WEEK.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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WPA



WAYNE AMSBURY  
PRIMARY PATENT EXAMINER